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TRACKS OF TOTAL SOLAR ECLIPSES IN 1958, 1959, 1960

At the request of Commission 13 of the International Astronomical Union, these data have been specially calculated in the Office of the American Ephemeris, from tabular positions of the Sun and Moon computed for the purpose in the British Nautical Almanac Office. The aim is to provide the location of tracks of total solar eclipses far enough in advance so that in regions where extended meteorological observations are lacking, suitable sites for eclipse expeditions can be determined. It is intended to issue this information at least eight years in advance.

The following corrections have been applied to the tabular positions of the Sun and Moon: to the Sun's mean longitude, $+1''.00$; to the Moon's mean longitude, $-3''.00$; to the Moon's latitude, $-0''.5$. The effect of a subsequent additional correction to the Moon's mean longitude on the position of the eclipse track may be closely determined as follows: for an additional positive correction of k seconds of arc, lay off from any point on the track a distance of $27k$ seconds of arc in longitude, eastward along the same parallel of latitude.

The approximate width of the path has been calculated from the formulae of Michailov, *A. N.* 243, 49. The width is approximately the great-circle distance, on the surface of the Earth, perpendicular to the track, in statute miles.

No total solar eclipse occurs in 1960.

Total Solar Eclipse of October 12, 1958

Universal Time h m	Latitude o ′	Longitude o ′	Duration on Central Line s	Width of Path mi
19 16.6 (Limit)	- 0 31.5	- 157 25.8	...	...
20	2 56.5	170 54.2	154	106
25	4 45.8	- 177 47.6	164	112
30	- 6 16.4	+ 177 30.3	171	117
35	7 38.4	173 47.2	177	120
40	8 54.8	170 39.2	182	122
45	10 07.3	167 54.6	186	124
50	11 16.8	165 26.8	190	126
55	12 23.9	163 11.7	193	127
20 00	- 13 29.0	+ 161 06.3	196	128
05	14 32.3	159 08.5	199	129
10	15 34.2	157 16.6	201	130
15	16 34.8	155 29.4	203	130
20	17 34.1	153 45.9	204	130
25	18 32.4	152 05.0	206	131
30	- 19 29.5	+ 150 26.2	207	131
35	20 25.8	148 48.6	208	131
40	21 21.0	147 11.8	209	131
45	22 15.4	145 35.0	209	130
50	23 08.9	143 57.8	210	130
55	24 01.6	142 19.7	210	130
21 00	- 24 53.3	+ 140 40.0	210	129
05	25 44.2	138 58.4	209	129
10	26 34.2	137 14.0	209	128
15	27 23.2	135 26.5	208	128
20	28 11.3	133 35.1	207	127
25	28 58.3	131 39.1	206	126
30	- 29 44.1	+ 129 37.7	205	126
35	30 28.8	127 30.0	203	125
40	31 12.0	125 14.8	201	124
45	31 53.6	122 50.9	199	123
50	32 33.6	120 16.6	196	122
55	33 11.4	117 29.9	193	121
22 00	- 33 46.8	+ 114 28.0	190	119
05	34 19.1	111 07.3	186	118
10	34 47.7	107 22.3	182	116
15	35 11.3	103 04.7	177	114
20	35 27.7	97 59.6	171	111
25	35 32.5	91 35.7	164	108
30	- 35 12.1	+ 82 13.6	153	103
22 33.0 (Limit)	- 33 39.1	+ 66 37.1	...	...

In the eclipse of 1958 October 12, geocentric conjunction occurs at $21^{\text{h}}03^{\text{m}}54^{\text{s}}.41$, in right ascension $13^{\text{h}}10^{\text{m}}13^{\text{s}}.92$, the declination of the Sun being $-7^{\circ}27'09''11$.

West longitudes are positive.

Total Solar Eclipse of October 2, 1959				
Universal Time	Latitude	Longitude	Duration on Central Line	Width of Path
h m	° '	° '	s	mi
10 50.3 (Limit)	+ 42 35.2	+ 72 04.5	...	...
55	40 17.9	51 40.0	82	47
11 00	+ 38 43.7	+ 43 47.7	95	52
05	37 19.7	38 12.8	106	55
10	36 01.4	33 47.0	116	57
15	34 47.0	30 04.4	124	60
20	33 35.8	26 51.8	132	62
25	32 27.1	24 01.3	139	63
30	+ 31 20.5	+ 21 27.8	146	65
35	30 15.8	19 07.7	152	66
40	29 12.7	16 58.4	157	67
45	28 11.1	14 58.0	162	68
50	27 10.9	13 04.8	166	70
55	26 11.8	11 17.5	170	71
12 00	+ 25 13.9	+ 9 35.2	173	71
05	24 17.1	7 56.9	176	72
10	23 21.2	6 21.8	179	73
15	22 26.4	4 49.3	180	74
20	21 32.4	3 18.7	181	74
25	20 39.3	1 49.4	182	75
30	+ 19 47.0	+ 0 20.9	182	75
35	18 55.5	- 1 07.3	182	75
40	18 04.8	2 35.9	181	76
45	17 14.9	4 05.2	179	76
50	16 25.8	5 36.0	177	76
55	15 37.5	7 08.9	175	76
13 00	+ 14 49.9	- 8 44.4	172	75
05	14 03.2	10 23.4	168	75
10	13 17.3	12 06.7	164	74
15	12 32.2	13 55.4	159	73
20	11 48.1	15 50.8	154	72
25	11 05.0	17 54.6	148	71
30	+ 10 23.1	- 20 08.9	141	70
35	9 42.5	22 36.7	134	68
40	9 03.4	25 22.5	126	66
45	8 26.4	28 33.3	117	63
50	7 52.2	32 21.6	107	59
55	7 22.4	37 14.5	95	55
14 00	+ 7 02.8	- 44 43.8	79	49
02.6 (Limit)	+ 7 20.6	- 56 17.2	...	...

In the eclipse of 1959 October 2, geocentric conjunction occurs at $12^{\text{h}}12^{\text{m}}13^{\text{s}}.92$, in right ascension $12^{\text{h}}31^{\text{m}}25^{\text{s}}.08$, the declination of the Sun being $-3^{\circ}23'27''.95$. West Longitudes are positive.